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DATA ITEM DESCRIPTION - DESCRIPTION DE DONNÉES

1. TITLE – TITRE	2. IDENTIFICATION NUMBER - NUMÉRO D'IDENTIFICATION
Trend Analysis	**DID 4.12.1**

3. DESCRIPTION / PURPOSE – DESCRIPTION / OBJET

The Contractor shall perform on-going trend analysis for the equipment and systems listed in paragraph 4.12 as well as any other information
the Contractor requires to:
Amend Identify issue of obsolescence;
Identify issues of reliability;
Highlight instances where in-service performance does not meet expectations and to establish corrective action;
Identify equipment and systems which are at or nearing the end their service life and when a service life extension is warranted or recommended;

Additional or supplemental training requirements for personnel; and
Establish appropriate sparing levels.

4. APPROVAL DATE DATE D'APPROBATION	5. OFFICE OF PRIMARY INTEREST (OPI) BUREAU DE PREMIERE RESPONSABILITÉ (BPR)	6. GIDEP APPLICABLE D'ÉCHANGE DE DONNÉES PERTINENT
September 2020	NWSO Technical Authority (TA)	

7. APPLICATION / INTERRELATIONSHIP – APPLICATION / INTERDÉPENDANCE

CDRL 4.12.1 and SOW paragraph 4.12.1 refer.
This DID contains the format and content preparation instructions for the data generated under the work tasks described in the NWS O&M SOW.

8. ORIGINATOR - AUTEUR	9. APPLICABLE FORMS - FORMULES PERTINENTES
NWSO TA	

10. PREPARATION INSTRUCTIONS – INSTRUCTIONS SUR LA PRÉSENTATION DES DONNÉES

10.1 Source Document
NWS SOW Section 4, paragraph 4.12.1.

10.2 Content and Format

10.2.1 The Contractor shall prepare comprehensive quarterly AN/FPS-124 Obsolescence Reports. The reports are to detail obsolescence issues with AN/FPS-124 components, subassemblies and/or assemblies to include, at a minimum:
10.2.1.1 NATO Stock Number (NSN) or OEM part number;
10.2.1.2 Serial number (where applicable);
10.2.1.3 Parent (next higher) assembly;
10.2.1.4 Present status i.e. Return to service, spare, beyond economical repair (BER), under repair, awaiting parts, forwarded to an outside repair agency (ORA), etc.;
10.2.1.5 Modification status i.e. Modifications up-to-date and modification label affixed;
10.2.1.6 Present location of part (i.e. Depot stock, LSS stock, on repair line, at ORA, installed at (site)); and

10.2.1.7 A description of the sustainment issue, specifically;
10.2.1.7.1 Failure history;
10.2.1.7.2 Description: common Line-Replaceable Unit (LRU)/Shop Repairable Unit (SRU) nomenclature;
10.2.1.7.3 Quantity: number of units installed per Short Range Radar (SRR) site;
10.2.1.7.4 Operational units: number of units installed across the NWS;
10.2.1.7.5 Spares: number of spares on hand;
10.2.1.7.6 Sparing level: calculation of the number of spares compared to the number of installed units;
10.2.1.7.7 Percentage: percentage of fielded units that have failed;
10.2.1.7.8 Annual average: the annual failure rate average;
10.2.1.7.9 Mean Time Between Failure (MTBF): reported in units of 1E6, or 1,000,000 hours; and
10.2.1.7.9.1 Spares/annual average: A calculation of the length of time that the NWS system can remain operational before failures would begin to cause mission capability problems assuming no repair source. This calculation shall be an attempt to profile the worst case life expectancy taking into consideration the sparing level and failure rate to determine a hypothetical time to depletion assuming that the failure rates remain constant.
10.2.2 The Contractor shall prepare an annual trend analysis report covering each system identified in the SOW doc and real property systems and assets covered in the SOW the report is to document efforts taken, underway or planned to ensure that equipment and systems meet or exceed service life expectations at minimal cost. The report shall address, at a minimum:
10.2.2.1 The status of training, specifically any amendments to training requirements;
10.2.2.2 The status of pm routines, specifically any amendments made during the reporting period or proposed for a future PMP update. The report shall also include a summary of which pm tasks were reported as exceptions with a narrative of any trends in why these tasks were not completed;
10.2.2.3 An analysis of work order and ESR data to provide the following failure statistics:
10.2.2.4 Mean Time Between Failure (MTBF), reported in hours and calculated using annual required operating hours divided by number of system critical failures;
10.2.2.5 Inherent Availability (IA) demonstrates the efficiency of system repairs. The inherent availability calculation uses the time required to perform the failure maintenance to the period between failures, and
10.2.2.6 Mean Time To Repair (MTTR) as an indicator of technical efficiency. MTTR is calculated from the total repair work minutes logged in MAXIMO work orders divided by the number of system failures per site. The MTTR only reflects on-site work time;
10.2.3 The status of sparing, specifically any changes to established sparing levels or proposed changes, concerns over availability of spares and the reliability of repair vendors;
10.2.4 A on legislative compliance and any action taken in the reporting period or proposed action to maintain compliance commentary;
10.2.5 A summary of any quality deficiencies identified in the reporting period; and
10.2.6 Amendments to documentation or planned amendments, based on field inspections which produce red-line drawings, ECRS for new installations which required updates to site record drawings, maintenance routines or operation and maintenance manuals or service bulletins from OEMS which require updates to NWS technical documentation.
10.2.7 The report is to include an executive summary, outlining any major concerns in trending, and corrective actions underway or planned to address negative trending and any relevant costing data.
10.2.8 The annual trend analysis report shall be a format proposed by the Contractor and as accepted by the NWSO TA. List of the References are provided for guidance. The annual report shall be submitted by 15 November each year, or the first business day thereafter. The NWSO TA reserves the right to have the Contractor amend the format and contents of the report at any time.
10.2.9 For the trend analysis by site and equipment type, the Contractor shall:
10.2.9.1 1) Gather baseline performance or historical data to establish performance benchmarks;
10.2.9.2 2) Project expected performance to the future, taking into account aging and known future enhancements;
10.2.9.3 3) Establish acceptable performance deviation thresholds;
10.2.9.4 4) Initiate monitoring by linking performance data sources in work management system to appropriate performance factors;
10.2.9.5 5) Establish annual review of actual versus projected performance;
10.2.9.6 6) For potential problem areas, validate actual and projected performance and, if necessary, revise projections for future years;
10.2.9.7 7) For validated problem areas, in consultation with the applicable NWSO TA, prioritize items for corrective action;
10.2.9.8 8) Conduct options analysis of possible corrective actions (may include modifications, overhauls, or replacements or revisions to procedures);
10.2.9.9 9) Submit proposed corrective action to NWSO TA for approval where applicable; and
10.2.9.10 10) Revise performance projections to reflect any changes introduced. Propose modifications to maintain or extend life expectancy. Conduct studies to resolve problems in the area of electrical engineering to determine least cost of

acquisition, maintenance of equipment.
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